

Amendments to the Claims

The listing of claims will replace all prior versions and listings of claims in the application.

Listing of the Claims

1. (Currently Amended) A method of regenerating a mesenchymally-derived tissue, comprising contacting said tissue with a composition comprising an isolated adult mesenchymal stem cell, said mesenchymal stem cell comprising an exogenous nucleic acid encoding an akt gene, wherein said composition is administered locally to said tissue.
2. (Original) The method of claim 1, wherein said tissue is selected from the group consisting of connective tissue, epithelial tissue, nervous tissue and muscle tissue.
3. (Original) The method of claim 1, wherein said tissue is selected from the group consisting of myocardial, brain, spinal cord, bone, cartilage, liver, muscle, lung, vascular, and adipose tissue.
4. (Withdrawn) The method of claim 2, wherein said muscle tissue comprises skeletal muscle.
5. (Withdrawn) The method of claim 2, wherein said muscle tissue comprises smooth muscle.
6. (Withdrawn) The method of claim 1, wherein said mesenchymal stem cell further comprises an exogenous nucleic acid encoding a homing molecule.
7. (Withdrawn) The method of claim 6, wherein said homing molecule is selected from the group consisting of a chemokine receptor, an interleukin receptor, an estrogen receptor, an integrin receptor.

8. (Withdrawn) The method of claim 1, wherein said mesenchymal stem cell further comprises an exogenous nucleic acid encoding a hormone.
9. (Withdrawn) The method of claim 1, wherein said mesenchymal stem cell further comprises an exogenous nucleic acid encoding an angiogenic factor.
10. (Withdrawn) The method of claim 1, wherein said mesenchymal stem cell further comprises an exogenous nucleic acid encoding a bone morphogenetic protein.
11. (Withdrawn) The method of claim 1, wherein said mesenchymal stem cell further comprises an exogenous nucleic acid encoding an extracellular matrix protein.
12. (Original) The method of claim 1, wherein said mesenchymal stem cell further comprises an exogenous nucleic acid encoding a cytokine or growth factor.
13. - 90. (Canceled)
91. (New) The method of claim 1, wherein said mesenchymal stem cell is locally administered into a damaged portion of the myocardium.
92. (New) The method of claim 1, wherein said mesenchymal stem cell further comprises a growth factor.
93. (New) The method of claim 1, wherein said mesenchymal stem cell further comprises an exogenous nucleic acid encoding a SDF-1 gene.
94. (New) A method of regenerating an injured mesenchymally-derived tissue, comprising contacting said tissue with a composition comprising an isolated adult mesenchymal stem cell, said mesenchymal stem cell comprising an exogenous nucleic acid encoding an akt gene and an exogenous nucleic acid encoding an injury-associated protein, wherein said injury-associated protein enhances homing to said tissue.

95. (New) The method of claim 94, wherein said injury-associated protein comprises SDF-1.